



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q78162

Yoshiyuki FUKUMOTO, et al.

Appln. No.: 10/697,124

Group Art Unit: 2836

Confirmation No.: 8462

Examiner: Unknown

Filed: October 31, 2003

For: MAGNETORESISTANCE DEVICE AND METHOD OF FABRICATING THE SAME

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §§ 1.97 and 1.98

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and/or listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

One copy of each of the listed documents is submitted herewith.

1. Japanese Laid-Open Patent Application Publication No. 2000-20922, published January 21, 2000.
2. Japanese Laid-Open Patent Application Publication No. 2002-158381, published May 31, 2002.
3. Japanese Laid-Open Patent Application Publication No. 2001-237471, published August 31, 2001.

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4. Japanese Laid-Open Patent Application Publication No. 10-65232, published March 6, 1998.
5. Japanese Laid-Open Patent Application Publication No. 2002-74627, published March 15, 2002.
6. Z. Zhang et al., "Annealing effect of magnetic tunnel junctions with one FeOx layer inserted at the Al₂O₃/COFe interface", Applied Physics Letters, Vol. 78, No. 19, (May 7, 2001, pp. 2911-2913.
7. K. Matsuda et al., "Reduced magnetoresistance in magnetic tunnel junctions caused by geometrical artifacts", Applied Physics Letters, Vol. 77, No. 19, (November 6, 2000), pp. 3060-3062.
8. J.S. Moore et al., "Geometrically enhanced magnetoresistance in ferromagnet-insulator-ferromagnet tunnel junctions", Applied Physics Letters, Vol. 69, No. 5, (July 29, 1996), pp. 708-710.
9. S. Ohnuma et al., "Soft Magnetic Films with High Electrical Resistivity", Journal of the Magnetism Society of Japan, Vol. 19, No. 1, (1995), pp. 19-25 with English Abstract.

The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date; (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

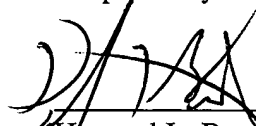
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INFORMATION DISCLOSURE STATEMENT

In compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents, Applicant states that above references 1-8 are discussed within the specification beginning at page 3, line 26, page 4, lines 2,12 and 16, page 5, line 1, page 7, lines 20 and 25, page 8, line 3.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,



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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

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Complete if Known

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|------------------------|--------------------|
| Application Number | 10/697,124 |
| Confirmation Number | 8462 |
| Filing Date | October 31, 2003 |
| First Named Inventor | Yoshiyuki FUKUMOTO |
| Art Unit | 2836 |
| Examiner Name | Unknown |
| Attorney Docket Number | Q78162 |

U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Document Number | | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document |
|--------------------|-----------------------|-----------------|--------------------------------------|--------------------------------|---|
| | | Number | Kind Code ² (if known) | | |
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FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | | | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Translation ⁶ |
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| | | Country Code ³ | Number ⁴ | Kind Code ⁵ (if known) | | | |
| | | JP | 2000-20922 | A | 01/21/2000 | | |
| | | JP | 2002-158381 | A | 05/31/2002 | | |
| | | JP | 2001-237471 | A | 08/31/2001 | | |
| | | JP | 10-65232 | A | 03/06/1998 | | |
| | | JP | 2002-74627 | A | 03/15/2002 | | |
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NON PATENT LITERATURE DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published. | Translation ⁶ |
|--------------------|-----------------------|--|--------------------------|
| | | Z. Zhang et al., "Annealing effect of magnetic tunnel junctions with one FeOx layer inserted at the Al ₂ O ₃ /COFe interface", Applied Physics Letters, Vol. 78, No. 19, (May 7, 2001), pp. 2911-2913. | |
| | | K. Matsuda et al., "Reduced magnetoresistance in magnetic tunnel junctions caused by geometrical artifacts", Applied Physics Letters, Vol. 77, No. 19, (November 6, 2000), pp. 3060-3062. | |
| | | J.S. Moore et al., "Geometrically enhanced magnetoresistance in ferromagnet-insulator-ferromagnet tunnel junctions", Applied Physics Letters, Vol. 69, No. 5, (July 29, 1996), pp. 708-710. | |
| | | S. Ohnuma et al., "Soft Magnetic Films with High Electrical Resistivity", Journal of the Magnetics Society of Japan, Vol. 19, No. 1, (1995), pp. 19-25 with English Abstract. | |
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Examiner Signature

Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²See Kind Codes of USPTO Patent Documents at www.uspto.gov, MPEP 901.04 or follow the hyperlink from the title of the document to the intranet. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to indicate here if English language Translation is attached.